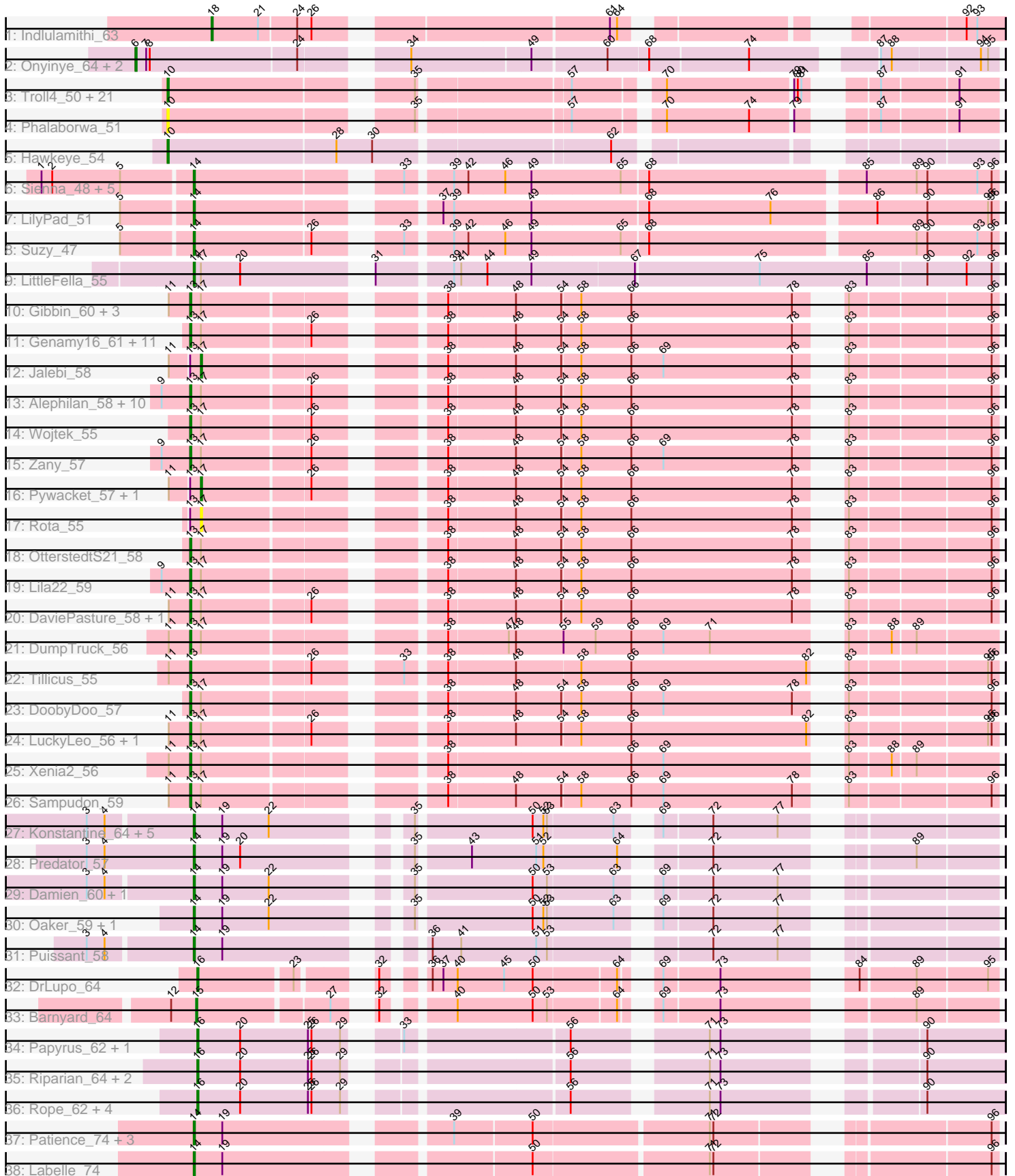


Pham 308341



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 308341 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308341 has 110 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Indlulamithi_63
- Track 2 : Onyinye_64, Leopard_63, Aikoy_64
- Track 3 : Troll4_50, SuperheroCarly_51, Butterscotch_49, Prager_50, Chill_52, PBI1_47, Giuseppe_50, Mopey_51, Erk16_49, Visconti_51, Adjutor_49, BigMama_48, Gumball_49, KandZ_49, WaldoWhy_52, Helpful_53, PLOT_50, Nova_49, Thoth_50, SirHarley_51, Delton_51, Penelope2018_50
- Track 4 : Phalaborwa_51
- Track 5 : Hawkeye_54
- Track 6 : Sienna_48, BiteSize_48, Terapin_49, Beyoncage_48, Djokovic_48, Madi_48
- Track 7 : LilyPad_51
- Track 8 : Suzy_47
- Track 9 : LittleFella_55
- Track 10 : Gibbin_60, Patos_61, NorManre_61, Yikes_60
- Track 11 : Genamy16_61, Stormer_60, RazorC_58, Astralis_58, NovaSharks_60, Jamemuya19_58, Charminar_57, Rumi_59, Alyssmiracle_61, MoiGyank_61, Riduram_57, Avian_57
- Track 12 : Jalebi_58
- Track 13 : Alephilan_58, LavAbarElk_58, BirthdayBoy_60, Rukungu_61, Erutan_58, Mima20_58, Fulcrum_58, GOATification_58, Lambo_56, Ranch_58, ParvusTarda_57
- Track 14 : Wojtek_55
- Track 15 : Zany_57
- Track 16 : Pywacket_57, GretelLyn_58
- Track 17 : Rota_55
- Track 18 : OtterstedtS21_58
- Track 19 : Lila22_59
- Track 20 : DaviePasture_58, Sadboi_59
- Track 21 : DumpTruck_56
- Track 22 : Tillicus_55
- Track 23 : DoobyDoo_57
- Track 24 : LuckyLeo_56, Apeppi_54
- Track 25 : Xenia2_56
- Track 26 : Sampudon_59
- Track 27 : Konstantine_64, Thumb_61, Megatron06_61, Phreeze_59, Cborch11_62, Nish23_62
- Track 28 : Predator_57
- Track 29 : Damien_60, BobtimousPrime_62

- Track 30 : Oaker_59, Beckerton_59
- Track 31 : Puissant_58
- Track 32 : DrLupo_64
- Track 33 : Barnyard_64
- Track 34 : Papyrus_62, Yelo_61
- Track 35 : Riparian_64, Weiss13_61, Nilo_64
- Track 36 : Rope_62, Zenon_63, Send513_62, Candle_60, MontyDev_63
- Track 37 : Patience_74, SuperSonics_77, Madruga_72, Demikore_76
- Track 38 : Labelle_74

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 13, it was called in 37 of the 101 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alephilan_58, Alyssamiracle_61, Apeppi_54, Astralis_58, Avian_57, BirthdayBoy_60, Charminar_57, DaviePasture_58, DoobyDoo_57, DumpTruck_56, Erutan_58, Fulcrum_58, GOATification_58, Genamy16_61, Gibbin_60, Jamemuya19_58, Lambo_56, LavAbarElk_58, Lila22_59, LuckyLeo_56, Mima20_58, MoiGyank_61, NorManre_61, NovaSharks_60, OtterstedtS21_58, ParvusTarda_57, Patos_61, Ranch_58, RazorC_58, Riduram_57, Rukungu_61, Rumi_59, Sadboi_59, Sampudon_59, Stormer_60, Tillicus_55, Wojtek_55, Xenia2_56, Yikes_60, Zany_57,

Genes that have the "Most Annotated" start but do not call it:

- GretellLyn_58, Jalebi_58, Pywacket_57, Rota_55,

Genes that do not have the "Most Annotated" start:

- Adjutor_49, Aikoy_64, Barnyard_64, Beckerton_59, Beyoncage_48, BigMama_48, BiteSize_48, BobtimousPrime_62, Butterscotch_49, Candle_60, Cborch11_62, Chill_52, Damien_60, Delton_51, Demikore_76, Djokovic_48, DrLupo_64, Erk16_49, Giuseppe_50, Gumball_49, Hawkeye_54, Helpful_53, Indlulamithi_63, KandZ_49, Konstantine_64, Labelle_74, Leopard_63, LilyPad_51, LittleFella_55, Madi_48, Madruga_72, Megatron06_61, MontyDev_63, Mopey_51, Nilo_64, Nish23_62, Nova_49, Oaker_59, Onyinye_64, PBI1_47, PLOT_50, Papyrus_62, Patience_74, Penelope2018_50, Phalaborwa_51, Phreeze_59, Prager_50, Predator_57, Puissant_58, Riparian_64, Rope_62, Send513_62, Sienna_48, SirHarley_51, SuperSonics_77, SuperheroCarly_51, Suzy_47, Terapin_49, Thoth_50, Thumb_61, Troll4_50, Visconti_51, WaldoWhy_52, Weiss13_61, Yelo_61, Zenon_63,

Summary by start number:

Start 6:

- Found in 3 of 110 (2.7%) of genes in pham
- Manual Annotations of this start: 3 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aikoy_64 (AE), Leopard_63 (AE), Onyinye_64 (AE),

Start 10:

- Found in 24 of 110 (21.8%) of genes in pham
- Manual Annotations of this start: 23 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adjutor_49 (D1), BigMama_48 (D1), Butterscotch_49 (D1), Chill_52 (D1), Delton_51 (D1), Erk16_49 (D1), Giuseppe_50 (D1), Gumball_49 (D1), Hawkeye_54 (D2), Helpful_53 (D1), KandZ_49 (D1), Mopey_51 (D1), Nova_49 (D1), PBI1_47 (D1), PLOT_50 (D1), Penelope2018_50 (D1), Phalaborwa_51 (D1), Prager_50 (D1), SirHarley_51 (D1), SuperheroCarly_51 (D1), Thoth_50 (D1), Troll4_50 (D1), Visconti_51 (D1), WaldoWhy_52 (D1),

Start 13:

- Found in 44 of 110 (40.0%) of genes in pham
- Manual Annotations of this start: 37 of 101
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Alephilan_58 (DV), Alyssamiracle_61 (DV), Apeppi_54 (DV), Astralis_58 (DV), Avian_57 (DV), BirthdayBoy_60 (DV), Charminar_57 (DV), DaviePasture_58 (DV), DoobyDoo_57 (DV), DumpTruck_56 (DV), Erutan_58 (DV), Fulcrum_58 (DV), GOATification_58 (DV), Genamy16_61 (DV), Gibbin_60 (DV), Jamemuya19_58 (DV), Lambo_56 (DV), LavAbarElk_58 (DV), Lila22_59 (DV), LuckyLeo_56 (DV), Mima20_58 (DV), MoiGyank_61 (DV), NorManre_61 (DV), NovaSharks_60 (DV), OtterstedtS21_58 (DV), ParvusTarda_57 (DV), Patos_61 (DV), Ranch_58 (DV), RazorC_58 (DV), Riduram_57 (DV), Rukungu_61 (DV), Rumi_59 (DV), Sadboi_59 (DV), Sampudon_59 (DV), Stormer_60 (DV), Tillicus_55 (DV), Wojtek_55 (DV), Xenia2_56 (DV), Yikes_60 (DV), Zany_57 (DV),

Start 14:

- Found in 26 of 110 (23.6%) of genes in pham
- Manual Annotations of this start: 23 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton_59 (H1), Beyoncage_48 (DG1), BiteSize_48 (DG1), BobtimousPrime_62 (H1), Cborch11_62 (H1), Damien_60 (H1), Demikore_76 (U), Djokovic_48 (DG1), Konstantine_64 (H1), Labelle_74 (U), LilyPad_51 (DG1), LittleFella_55 (DG2), Madi_48 (DG1), Madruga_72 (U), Megatron06_61 (H1), Nish23_62 (H1), Oaker_59 (H1), Patience_74 (U), Phreeze_59 (H1), Predator_57 (H1), Puissant_58 (H1), Sienna_48 (DG1), SuperSonics_77 (U), Suzy_47 (DG1), Terapin_49 (DG1), Thumb_61 (H1),

Start 15:

- Found in 1 of 110 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_64 (H2),

Start 16:

- Found in 11 of 110 (10.0%) of genes in pham
- Manual Annotations of this start: 11 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Candle_60 (R), DrLupo_64 (H2), MontyDev_63 (R), Nilo_64 (R), Papyrus_62 (R), Riparian_64 (R), Rope_62 (R), Send513_62 (R), Weiss13_61 (R), Yelo_61 (R), Zenon_63 (R),

Start 17:

- Found in 44 of 110 (40.0%) of genes in pham
- Manual Annotations of this start: 2 of 101
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Gretellyn_58 (DV), Jalebi_58 (DV), Pywacket_57 (DV), Rota_55 (DV),

Start 18:

- Found in 1 of 110 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 101
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Indlulamithi_63 (AC),

Summary by clusters:

There are 11 clusters represented in this pham: AC, AE, H2, H1, DG2, R, U, DV, DG1, D2, D1,

Info for manual annotations of cluster AC:

- Start number 18 was manually annotated 1 time for cluster AC.

Info for manual annotations of cluster AE:

- Start number 6 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster D1:

- Start number 10 was manually annotated 22 times for cluster D1.

Info for manual annotations of cluster D2:

- Start number 10 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DG1:

- Start number 14 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 14 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 13 was manually annotated 37 times for cluster DV.
- Start number 17 was manually annotated 2 times for cluster DV.

Info for manual annotations of cluster H1:

- Start number 14 was manually annotated 11 times for cluster H1.

Info for manual annotations of cluster H2:

- Start number 15 was manually annotated 1 time for cluster H2.
- Start number 16 was manually annotated 1 time for cluster H2.

Info for manual annotations of cluster R:

- Start number 16 was manually annotated 10 times for cluster R.

Info for manual annotations of cluster U:

- Start number 14 was manually annotated 3 times for cluster U.

Gene Information:

Gene: Adjutor_49 Start: 38486, Stop: 39076, Start Num: 10

Candidate Starts for Adjutor_49:

(Start: 10 @38486 has 23 MA's), (35, 38666), (57, 38780), (70, 38843), (79, 38945), (80, 38948), (81, 38951), (87, 38984), (91, 39044),

Gene: Aikoy_64 Start: 45136, Stop: 45786, Start Num: 6

Candidate Starts for Aikoy_64:

(Start: 6 @45136 has 3 MA's), (7, 45145), (8, 45148), (24, 45268), (34, 45337), (49, 45433), (60, 45493), (68, 45526), (74, 45607), (87, 45694), (88, 45703), (94, 45772), (95, 45778),

Gene: Alephilan_58 Start: 39978, Stop: 40571, Start Num: 13

Candidate Starts for Alephilan_58:

(9, 39957), (Start: 13 @39978 has 37 MA's), (Start: 17 @39987 has 2 MA's), (26, 40074), (38, 40155), (48, 40209), (54, 40245), (58, 40260), (66, 40302), (78, 40437), (83, 40455), (96, 40566),

Gene: Alyssamiracle_61 Start: 39111, Stop: 39704, Start Num: 13

Candidate Starts for Alyssamiracle_61:

(Start: 13 @39111 has 37 MA's), (Start: 17 @39120 has 2 MA's), (26, 39207), (38, 39288), (48, 39342), (54, 39378), (58, 39393), (66, 39435), (78, 39570), (83, 39588), (96, 39699),

Gene: Apeppi_54 Start: 39327, Stop: 39920, Start Num: 13

Candidate Starts for Apeppi_54:

(11, 39312), (Start: 13 @39327 has 37 MA's), (Start: 17 @39336 has 2 MA's), (26, 39423), (38, 39504), (48, 39558), (54, 39594), (58, 39609), (66, 39651), (82, 39798), (83, 39804), (95, 39912), (96, 39915),

Gene: Astralis_58 Start: 38689, Stop: 39282, Start Num: 13

Candidate Starts for Astralis_58:

(Start: 13 @38689 has 37 MA's), (Start: 17 @38698 has 2 MA's), (26, 38785), (38, 38866), (48, 38920), (54, 38956), (58, 38971), (66, 39013), (78, 39148), (83, 39166), (96, 39277),

Gene: Avian_57 Start: 38839, Stop: 39432, Start Num: 13

Candidate Starts for Avian_57:

(Start: 13 @38839 has 37 MA's), (Start: 17 @38848 has 2 MA's), (26, 38935), (38, 39016), (48, 39070), (54, 39106), (58, 39121), (66, 39163), (78, 39298), (83, 39316), (96, 39427),

Gene: Barnyard_64 Start: 44586, Stop: 45134, Start Num: 15

Candidate Starts for Barnyard_64:

(12, 44565), (Start: 15 @44586 has 1 MA's), (27, 44688), (32, 44706), (40, 44751), (50, 44814), (53, 44826), (64, 44880), (69, 44895), (73, 44940), (89, 45069),

Gene: Beckerton_59 Start: 45978, Stop: 46544, Start Num: 14

Candidate Starts for Beckerton_59:

(Start: 14 @45978 has 23 MA's), (19, 46002), (22, 46041), (35, 46128), (50, 46218), (52, 46227), (53, 46230), (63, 46284), (69, 46305), (72, 46344), (77, 46398),

Gene: Beyoncage_48 Start: 35793, Stop: 36413, Start Num: 14

Candidate Starts for Beyoncage_48:

(1, 35670), (2, 35679), (5, 35736), (Start: 14 @35793 has 23 MA's), (33, 35943), (39, 35976), (42, 35988), (46, 36018), (49, 36039), (65, 36111), (68, 36132), (85, 36303), (89, 36345), (90, 36354), (93, 36396), (96, 36408),

Gene: BigMama_48 Start: 38562, Stop: 39152, Start Num: 10

Candidate Starts for BigMama_48:

(Start: 10 @38562 has 23 MA's), (35, 38742), (57, 38856), (70, 38919), (79, 39021), (80, 39024), (81, 39027), (87, 39060), (91, 39120),

Gene: BirthdayBoy_60 Start: 40396, Stop: 40989, Start Num: 13

Candidate Starts for BirthdayBoy_60:

(9, 40375), (Start: 13 @40396 has 37 MA's), (Start: 17 @40405 has 2 MA's), (26, 40492), (38, 40573), (48, 40627), (54, 40663), (58, 40678), (66, 40720), (78, 40855), (83, 40873), (96, 40984),

Gene: BiteSize_48 Start: 35879, Stop: 36499, Start Num: 14

Candidate Starts for BiteSize_48:

(1, 35756), (2, 35765), (5, 35822), (Start: 14 @35879 has 23 MA's), (33, 36029), (39, 36062), (42, 36074), (46, 36104), (49, 36125), (65, 36197), (68, 36218), (85, 36389), (89, 36431), (90, 36440), (93, 36482), (96, 36494),

Gene: BobtimousPrime_62 Start: 45942, Stop: 46508, Start Num: 14

Candidate Starts for BobtimousPrime_62:

(3, 45858), (4, 45873), (Start: 14 @45942 has 23 MA's), (19, 45966), (22, 46005), (35, 46092), (50, 46182), (53, 46194), (63, 46248), (69, 46269), (72, 46308), (77, 46362),

Gene: Butterscotch_49 Start: 38546, Stop: 39136, Start Num: 10

Candidate Starts for Butterscotch_49:

(Start: 10 @38546 has 23 MA's), (35, 38726), (57, 38840), (70, 38903), (79, 39005), (80, 39008), (81, 39011), (87, 39044), (91, 39104),

Gene: Candle_60 Start: 46133, Stop: 46711, Start Num: 16

Candidate Starts for Candle_60:

(Start: 16 @46133 has 11 MA's), (20, 46169), (25, 46226), (26, 46229), (29, 46253), (56, 46406), (71, 46502), (73, 46511), (90, 46646),

Gene: Cborch11_62 Start: 45497, Stop: 46063, Start Num: 14

Candidate Starts for Cborch11_62:

(3, 45413), (4, 45428), (Start: 14 @45497 has 23 MA's), (19, 45521), (22, 45560), (35, 45647), (50, 45737), (52, 45746), (53, 45749), (63, 45803), (69, 45824), (72, 45863), (77, 45917),

Gene: Charminar_57 Start: 38457, Stop: 39050, Start Num: 13

Candidate Starts for Charminar_57:

(Start: 13 @38457 has 37 MA's), (Start: 17 @38466 has 2 MA's), (26, 38553), (38, 38634), (48, 38688), (54, 38724), (58, 38739), (66, 38781), (78, 38916), (83, 38934), (96, 39045),

Gene: Chill_52 Start: 38653, Stop: 39243, Start Num: 10

Candidate Starts for Chill_52:

(Start: 10 @38653 has 23 MA's), (35, 38833), (57, 38947), (70, 39010), (79, 39112), (80, 39115), (81, 39118), (87, 39151), (91, 39211),

Gene: Damien_60 Start: 45459, Stop: 46025, Start Num: 14

Candidate Starts for Damien_60:

(3, 45375), (4, 45390), (Start: 14 @45459 has 23 MA's), (19, 45483), (22, 45522), (35, 45609), (50, 45699), (53, 45711), (63, 45765), (69, 45786), (72, 45825), (77, 45879),

Gene: DaviePasture_58 Start: 40031, Stop: 40624, Start Num: 13

Candidate Starts for DaviePasture_58:

(11, 40016), (Start: 13 @40031 has 37 MA's), (Start: 17 @40040 has 2 MA's), (26, 40127), (38, 40208), (48, 40262), (54, 40298), (58, 40313), (66, 40355), (78, 40490), (83, 40508), (96, 40619),

Gene: Delton_51 Start: 38899, Stop: 39489, Start Num: 10

Candidate Starts for Delton_51:

(Start: 10 @38899 has 23 MA's), (35, 39079), (57, 39193), (70, 39256), (79, 39358), (80, 39361), (81, 39364), (87, 39397), (91, 39457),

Gene: Demikore_76 Start: 48223, Stop: 48813, Start Num: 14

Candidate Starts for Demikore_76:

(Start: 14 @48223 has 23 MA's), (19, 48247), (39, 48409), (50, 48472), (71, 48613), (72, 48616), (96, 48808),

Gene: Djokovic_48 Start: 35792, Stop: 36412, Start Num: 14

Candidate Starts for Djokovic_48:

(1, 35669), (2, 35678), (5, 35735), (Start: 14 @35792 has 23 MA's), (33, 35942), (39, 35975), (42, 35987), (46, 36017), (49, 36038), (65, 36110), (68, 36131), (85, 36302), (89, 36344), (90, 36353), (93, 36395), (96, 36407),

Gene: DoobyDoo_57 Start: 39053, Stop: 39646, Start Num: 13

Candidate Starts for DoobyDoo_57:

(Start: 13 @39053 has 37 MA's), (Start: 17 @39062 has 2 MA's), (38, 39230), (48, 39284), (54, 39320), (58, 39335), (66, 39377), (69, 39404), (78, 39512), (83, 39530), (96, 39641),

Gene: DrLupo_64 Start: 44697, Stop: 45242, Start Num: 16

Candidate Starts for DrLupo_64:

(Start: 16 @44697 has 11 MA's), (23, 44772), (32, 44814), (36, 44838), (37, 44847), (40, 44859), (45, 44898), (50, 44922), (64, 44988), (69, 45003), (73, 45048), (84, 45135), (89, 45177), (95, 45234),

Gene: DumpTruck_56 Start: 38523, Stop: 39119, Start Num: 13

Candidate Starts for DumpTruck_56:

(11, 38505), (Start: 13 @38523 has 37 MA's), (Start: 17 @38532 has 2 MA's), (38, 38700), (47, 38748), (48, 38754), (55, 38793), (59, 38820), (66, 38850), (69, 38877), (71, 38916), (83, 39003), (88, 39036), (89, 39054),

Gene: Erk16_49 Start: 38662, Stop: 39252, Start Num: 10

Candidate Starts for Erk16_49:

(Start: 10 @38662 has 23 MA's), (35, 38842), (57, 38956), (70, 39019), (79, 39121), (80, 39124), (81, 39127), (87, 39160), (91, 39220),

Gene: Erutan_58 Start: 39676, Stop: 40269, Start Num: 13

Candidate Starts for Erutan_58:

(9, 39655), (Start: 13 @39676 has 37 MA's), (Start: 17 @39685 has 2 MA's), (26, 39772), (38, 39853), (48, 39907), (54, 39943), (58, 39958), (66, 40000), (78, 40135), (83, 40153), (96, 40264),

Gene: Fulcrum_58 Start: 39692, Stop: 40285, Start Num: 13

Candidate Starts for Fulcrum_58:

(9, 39671), (Start: 13 @39692 has 37 MA's), (Start: 17 @39701 has 2 MA's), (26, 39788), (38, 39869), (48, 39923), (54, 39959), (58, 39974), (66, 40016), (78, 40151), (83, 40169), (96, 40280),

Gene: GOATification_58 Start: 39692, Stop: 40285, Start Num: 13

Candidate Starts for GOATification_58:

(9, 39671), (Start: 13 @39692 has 37 MA's), (Start: 17 @39701 has 2 MA's), (26, 39788), (38, 39869), (48, 39923), (54, 39959), (58, 39974), (66, 40016), (78, 40151), (83, 40169), (96, 40280),

Gene: Genamy16_61 Start: 39097, Stop: 39690, Start Num: 13

Candidate Starts for Genamy16_61:

(Start: 13 @39097 has 37 MA's), (Start: 17 @39106 has 2 MA's), (26, 39193), (38, 39274), (48, 39328), (54, 39364), (58, 39379), (66, 39421), (78, 39556), (83, 39574), (96, 39685),

Gene: Gibbin_60 Start: 40501, Stop: 41094, Start Num: 13

Candidate Starts for Gibbin_60:

(11, 40486), (Start: 13 @40501 has 37 MA's), (Start: 17 @40510 has 2 MA's), (38, 40678), (48, 40732), (54, 40768), (58, 40783), (66, 40825), (78, 40960), (83, 40978), (96, 41089),

Gene: Giuseppe_50 Start: 38535, Stop: 39125, Start Num: 10

Candidate Starts for Giuseppe_50:

(Start: 10 @38535 has 23 MA's), (35, 38715), (57, 38829), (70, 38892), (79, 38994), (80, 38997), (81, 39000), (87, 39033), (91, 39093),

Gene: Gretellyn_58 Start: 40584, Stop: 41168, Start Num: 17

Candidate Starts for Gretellyn_58:

(11, 40560), (Start: 13 @40575 has 37 MA's), (Start: 17 @40584 has 2 MA's), (26, 40671), (38, 40752), (48, 40806), (54, 40842), (58, 40857), (66, 40899), (78, 41034), (83, 41052), (96, 41163),

Gene: Gumball_49 Start: 38710, Stop: 39300, Start Num: 10

Candidate Starts for Gumball_49:

(Start: 10 @38710 has 23 MA's), (35, 38890), (57, 39004), (70, 39067), (79, 39169), (80, 39172), (81, 39175), (87, 39208), (91, 39268),

Gene: Hawkeye_54 Start: 38619, Stop: 39233, Start Num: 10

Candidate Starts for Hawkeye_54:

(Start: 10 @38619 has 23 MA's), (28, 38757), (30, 38787), (62, 38970),

Gene: Helpful_53 Start: 38874, Stop: 39464, Start Num: 10

Candidate Starts for Helpful_53:

(Start: 10 @38874 has 23 MA's), (35, 39054), (57, 39168), (70, 39231), (79, 39333), (80, 39336), (81, 39339), (87, 39372), (91, 39432),

Gene: Indlulamithi_63 Start: 44697, Stop: 45257, Start Num: 18

Candidate Starts for Indlulamithi_63:

(Start: 18 @44697 has 1 MA's), (21, 44736), (24, 44766), (26, 44778), (61, 44997), (64, 45003), (92, 45225), (93, 45234),

Gene: Jalebi_58 Start: 40929, Stop: 41513, Start Num: 17

Candidate Starts for Jalebi_58:

(11, 40905), (Start: 13 @40920 has 37 MA's), (Start: 17 @40929 has 2 MA's), (38, 41097), (48, 41151), (54, 41187), (58, 41202), (66, 41244), (69, 41271), (78, 41379), (83, 41397), (96, 41508),

Gene: Jamemuya19_58 Start: 38702, Stop: 39295, Start Num: 13

Candidate Starts for Jamemuya19_58:

(Start: 13 @38702 has 37 MA's), (Start: 17 @38711 has 2 MA's), (26, 38798), (38, 38879), (48, 38933), (54, 38969), (58, 38984), (66, 39026), (78, 39161), (83, 39179), (96, 39290),

Gene: KandZ_49 Start: 38644, Stop: 39234, Start Num: 10

Candidate Starts for KandZ_49:

(Start: 10 @38644 has 23 MA's), (35, 38824), (57, 38938), (70, 39001), (79, 39103), (80, 39106), (81, 39109), (87, 39142), (91, 39202),

Gene: Konstantine_64 Start: 46290, Stop: 46856, Start Num: 14

Candidate Starts for Konstantine_64:

(3, 46206), (4, 46221), (Start: 14 @46290 has 23 MA's), (19, 46314), (22, 46353), (35, 46440), (50, 46530), (52, 46539), (53, 46542), (63, 46596), (69, 46617), (72, 46656), (77, 46710),

Gene: Labelle_74 Start: 48044, Stop: 48634, Start Num: 14

Candidate Starts for Labelle_74:

(Start: 14 @48044 has 23 MA's), (19, 48068), (50, 48293), (71, 48434), (72, 48437), (96, 48629),

Gene: Lambo_56 Start: 39529, Stop: 40122, Start Num: 13

Candidate Starts for Lambo_56:

(9, 39508), (Start: 13 @39529 has 37 MA's), (Start: 17 @39538 has 2 MA's), (26, 39625), (38, 39706), (48, 39760), (54, 39796), (58, 39811), (66, 39853), (78, 39988), (83, 40006), (96, 40117),

Gene: LavAbarElk_58 Start: 39283, Stop: 39876, Start Num: 13

Candidate Starts for LavAbarElk_58:

(9, 39262), (Start: 13 @39283 has 37 MA's), (Start: 17 @39292 has 2 MA's), (26, 39379), (38, 39460), (48, 39514), (54, 39550), (58, 39565), (66, 39607), (78, 39742), (83, 39760), (96, 39871),

Gene: Leopard_63 Start: 45421, Stop: 46071, Start Num: 6

Candidate Starts for Leopard_63:

(Start: 6 @45421 has 3 MA's), (7, 45430), (8, 45433), (24, 45553), (34, 45622), (49, 45718), (60, 45778), (68, 45811), (74, 45892), (87, 45979), (88, 45988), (94, 46057), (95, 46063),

Gene: Lila22_59 Start: 40480, Stop: 41073, Start Num: 13

Candidate Starts for Lila22_59:

(9, 40459), (Start: 13 @40480 has 37 MA's), (Start: 17 @40489 has 2 MA's), (38, 40657), (48, 40711), (54, 40747), (58, 40762), (66, 40804), (78, 40939), (83, 40957), (96, 41068),

Gene: LilyPad_51 Start: 37197, Stop: 37817, Start Num: 14

Candidate Starts for LilyPad_51:

(5, 37140), (Start: 14 @37197 has 23 MA's), (37, 37371), (39, 37380), (49, 37443), (68, 37536), (76, 37638), (86, 37716), (90, 37758), (95, 37809), (96, 37812),

Gene: LittleFella_55 Start: 38453, Stop: 39082, Start Num: 14

Candidate Starts for LittleFella_55:

(Start: 14 @38453 has 23 MA's), (Start: 17 @38459 has 2 MA's), (20, 38492), (31, 38582), (39, 38639), (41, 38645), (44, 38666), (49, 38702), (67, 38783), (75, 38885), (85, 38975), (90, 39023), (92, 39056), (96, 39077),

Gene: LuckyLeo_56 Start: 39327, Stop: 39920, Start Num: 13

Candidate Starts for LuckyLeo_56:

(11, 39312), (Start: 13 @39327 has 37 MA's), (Start: 17 @39336 has 2 MA's), (26, 39423), (38, 39504), (48, 39558), (54, 39594), (58, 39609), (66, 39651), (82, 39798), (83, 39804), (95, 39912), (96, 39915),

Gene: Madi_48 Start: 35870, Stop: 36490, Start Num: 14

Candidate Starts for Madi_48:

(1, 35747), (2, 35756), (5, 35813), (Start: 14 @35870 has 23 MA's), (33, 36020), (39, 36053), (42, 36065), (46, 36095), (49, 36116), (65, 36188), (68, 36209), (85, 36380), (89, 36422), (90, 36431), (93,

36473), (96, 36485),

Gene: Madruga_72 Start: 47694, Stop: 48284, Start Num: 14

Candidate Starts for Madruga_72:

(Start: 14 @47694 has 23 MA's), (19, 47718), (39, 47880), (50, 47943), (71, 48084), (72, 48087), (96, 48279),

Gene: Megatron06_61 Start: 46036, Stop: 46602, Start Num: 14

Candidate Starts for Megatron06_61:

(3, 45952), (4, 45967), (Start: 14 @46036 has 23 MA's), (19, 46060), (22, 46099), (35, 46186), (50, 46276), (52, 46285), (53, 46288), (63, 46342), (69, 46363), (72, 46402), (77, 46456),

Gene: Mima20_58 Start: 40083, Stop: 40676, Start Num: 13

Candidate Starts for Mima20_58:

(9, 40062), (Start: 13 @40083 has 37 MA's), (Start: 17 @40092 has 2 MA's), (26, 40179), (38, 40260), (48, 40314), (54, 40350), (58, 40365), (66, 40407), (78, 40542), (83, 40560), (96, 40671),

Gene: MoiGyank_61 Start: 40856, Stop: 41449, Start Num: 13

Candidate Starts for MoiGyank_61:

(Start: 13 @40856 has 37 MA's), (Start: 17 @40865 has 2 MA's), (26, 40952), (38, 41033), (48, 41087), (54, 41123), (58, 41138), (66, 41180), (78, 41315), (83, 41333), (96, 41444),

Gene: MontyDev_63 Start: 45780, Stop: 46358, Start Num: 16

Candidate Starts for MontyDev_63:

(Start: 16 @45780 has 11 MA's), (20, 45816), (25, 45873), (26, 45876), (29, 45900), (56, 46053), (71, 46149), (73, 46158), (90, 46293),

Gene: Mopey_51 Start: 38546, Stop: 39136, Start Num: 10

Candidate Starts for Mopey_51:

(Start: 10 @38546 has 23 MA's), (35, 38726), (57, 38840), (70, 38903), (79, 39005), (80, 39008), (81, 39011), (87, 39044), (91, 39104),

Gene: Nilo_64 Start: 46133, Stop: 46711, Start Num: 16

Candidate Starts for Nilo_64:

(Start: 16 @46133 has 11 MA's), (20, 46169), (25, 46226), (26, 46229), (29, 46253), (56, 46406), (71, 46502), (73, 46511), (90, 46646),

Gene: Nish23_62 Start: 45497, Stop: 46063, Start Num: 14

Candidate Starts for Nish23_62:

(3, 45413), (4, 45428), (Start: 14 @45497 has 23 MA's), (19, 45521), (22, 45560), (35, 45647), (50, 45737), (52, 45746), (53, 45749), (63, 45803), (69, 45824), (72, 45863), (77, 45917),

Gene: NorManre_61 Start: 40213, Stop: 40806, Start Num: 13

Candidate Starts for NorManre_61:

(11, 40198), (Start: 13 @40213 has 37 MA's), (Start: 17 @40222 has 2 MA's), (38, 40390), (48, 40444), (54, 40480), (58, 40495), (66, 40537), (78, 40672), (83, 40690), (96, 40801),

Gene: Nova_49 Start: 38970, Stop: 39560, Start Num: 10

Candidate Starts for Nova_49:

(Start: 10 @38970 has 23 MA's), (35, 39150), (57, 39264), (70, 39327), (79, 39429), (80, 39432), (81, 39435), (87, 39468), (91, 39528),

Gene: NovaSharks_60 Start: 38688, Stop: 39281, Start Num: 13

Candidate Starts for NovaSharks_60:

(Start: 13 @38688 has 37 MA's), (Start: 17 @38697 has 2 MA's), (26, 38784), (38, 38865), (48, 38919), (54, 38955), (58, 38970), (66, 39012), (78, 39147), (83, 39165), (96, 39276),

Gene: Oaker_59 Start: 45750, Stop: 46316, Start Num: 14

Candidate Starts for Oaker_59:

(Start: 14 @45750 has 23 MA's), (19, 45774), (22, 45813), (35, 45900), (50, 45990), (52, 45999), (53, 46002), (63, 46056), (69, 46077), (72, 46116), (77, 46170),

Gene: Onyinye_64 Start: 45303, Stop: 45953, Start Num: 6

Candidate Starts for Onyinye_64:

(Start: 6 @45303 has 3 MA's), (7, 45312), (8, 45315), (24, 45435), (34, 45504), (49, 45600), (60, 45660), (68, 45693), (74, 45774), (87, 45861), (88, 45870), (94, 45939), (95, 45945),

Gene: OtterstedtS21_58 Start: 39862, Stop: 40455, Start Num: 13

Candidate Starts for OtterstedtS21_58:

(Start: 13 @39862 has 37 MA's), (Start: 17 @39871 has 2 MA's), (38, 40039), (48, 40093), (54, 40129), (58, 40144), (66, 40186), (78, 40321), (83, 40339), (96, 40450),

Gene: PBI1_47 Start: 38477, Stop: 39067, Start Num: 10

Candidate Starts for PBI1_47:

(Start: 10 @38477 has 23 MA's), (35, 38657), (57, 38771), (70, 38834), (79, 38936), (80, 38939), (81, 38942), (87, 38975), (91, 39035),

Gene: PLOT_50 Start: 38543, Stop: 39133, Start Num: 10

Candidate Starts for PLOT_50:

(Start: 10 @38543 has 23 MA's), (35, 38723), (57, 38837), (70, 38900), (79, 39002), (80, 39005), (81, 39008), (87, 39041), (91, 39101),

Gene: Papyrus_62 Start: 45988, Stop: 46566, Start Num: 16

Candidate Starts for Papyrus_62:

(Start: 16 @45988 has 11 MA's), (20, 46024), (25, 46081), (26, 46084), (29, 46108), (33, 46135), (56, 46261), (71, 46357), (73, 46366), (90, 46501),

Gene: ParvusTarda_57 Start: 39210, Stop: 39803, Start Num: 13

Candidate Starts for ParvusTarda_57:

(9, 39189), (Start: 13 @39210 has 37 MA's), (Start: 17 @39219 has 2 MA's), (26, 39306), (38, 39387), (48, 39441), (54, 39477), (58, 39492), (66, 39534), (78, 39669), (83, 39687), (96, 39798),

Gene: Patience_74 Start: 48588, Stop: 49178, Start Num: 14

Candidate Starts for Patience_74:

(Start: 14 @48588 has 23 MA's), (19, 48612), (39, 48774), (50, 48837), (71, 48978), (72, 48981), (96, 49173),

Gene: Patos_61 Start: 40212, Stop: 40805, Start Num: 13

Candidate Starts for Patos_61:

(11, 40197), (Start: 13 @40212 has 37 MA's), (Start: 17 @40221 has 2 MA's), (38, 40389), (48, 40443), (54, 40479), (58, 40494), (66, 40536), (78, 40671), (83, 40689), (96, 40800),

Gene: Penelope2018_50 Start: 38546, Stop: 39136, Start Num: 10

Candidate Starts for Penelope2018_50:

(Start: 10 @38546 has 23 MA's), (35, 38726), (57, 38840), (70, 38903), (79, 39005), (80, 39008), (81, 39011), (87, 39044), (91, 39104),

Gene: Phalaborwa_51 Start: 38912, Stop: 39502, Start Num: 10

Candidate Starts for Phalaborwa_51:

(Start: 10 @38912 has 23 MA's), (35, 39092), (57, 39206), (70, 39269), (74, 39338), (79, 39371), (87, 39410), (91, 39470),

Gene: Phreeze_59 Start: 45056, Stop: 45622, Start Num: 14

Candidate Starts for Phreeze_59:

(3, 44972), (4, 44987), (Start: 14 @45056 has 23 MA's), (19, 45080), (22, 45119), (35, 45206), (50, 45296), (52, 45305), (53, 45308), (63, 45362), (69, 45383), (72, 45422), (77, 45476),

Gene: Prager_50 Start: 38566, Stop: 39156, Start Num: 10

Candidate Starts for Prager_50:

(Start: 10 @38566 has 23 MA's), (35, 38746), (57, 38860), (70, 38923), (79, 39025), (80, 39028), (81, 39031), (87, 39064), (91, 39124),

Gene: Predator_57 Start: 43375, Stop: 43941, Start Num: 14

Candidate Starts for Predator_57:

(3, 43285), (4, 43300), (Start: 14 @43375 has 23 MA's), (19, 43399), (20, 43414), (35, 43525), (43, 43564), (51, 43618), (52, 43624), (64, 43684), (72, 43741), (89, 43876),

Gene: Puissant_58 Start: 45159, Stop: 45725, Start Num: 14

Candidate Starts for Puissant_58:

(3, 45075), (4, 45090), (Start: 14 @45159 has 23 MA's), (19, 45183), (36, 45315), (41, 45339), (51, 45402), (53, 45411), (72, 45525), (77, 45579),

Gene: Pywacket_57 Start: 40701, Stop: 41285, Start Num: 17

Candidate Starts for Pywacket_57:

(11, 40677), (Start: 13 @40692 has 37 MA's), (Start: 17 @40701 has 2 MA's), (26, 40788), (38, 40869), (48, 40923), (54, 40959), (58, 40974), (66, 41016), (78, 41151), (83, 41169), (96, 41280),

Gene: Ranch_58 Start: 38694, Stop: 39287, Start Num: 13

Candidate Starts for Ranch_58:

(9, 38673), (Start: 13 @38694 has 37 MA's), (Start: 17 @38703 has 2 MA's), (26, 38790), (38, 38871), (48, 38925), (54, 38961), (58, 38976), (66, 39018), (78, 39153), (83, 39171), (96, 39282),

Gene: RazorC_58 Start: 38841, Stop: 39434, Start Num: 13

Candidate Starts for RazorC_58:

(Start: 13 @38841 has 37 MA's), (Start: 17 @38850 has 2 MA's), (26, 38937), (38, 39018), (48, 39072), (54, 39108), (58, 39123), (66, 39165), (78, 39300), (83, 39318), (96, 39429),

Gene: Riduram_57 Start: 38417, Stop: 39010, Start Num: 13

Candidate Starts for Riduram_57:

(Start: 13 @38417 has 37 MA's), (Start: 17 @38426 has 2 MA's), (26, 38513), (38, 38594), (48, 38648), (54, 38684), (58, 38699), (66, 38741), (78, 38876), (83, 38894), (96, 39005),

Gene: Riparian_64 Start: 45581, Stop: 46159, Start Num: 16

Candidate Starts for Riparian_64:

(Start: 16 @45581 has 11 MA's), (20, 45617), (25, 45674), (26, 45677), (29, 45701), (56, 45854), (71, 45950), (73, 45959), (90, 46094),

Gene: Rope_62 Start: 45979, Stop: 46557, Start Num: 16

Candidate Starts for Rope_62:

(Start: 16 @45979 has 11 MA's), (20, 46015), (25, 46072), (26, 46075), (29, 46099), (56, 46252), (71, 46348), (73, 46357), (90, 46492),

Gene: Rota_55 Start: 39093, Stop: 39677, Start Num: 17

Candidate Starts for Rota_55:

(Start: 13 @39084 has 37 MA's), (Start: 17 @39093 has 2 MA's), (38, 39261), (48, 39315), (54, 39351), (58, 39366), (66, 39408), (78, 39543), (83, 39561), (96, 39672),

Gene: Rukungu_61 Start: 40740, Stop: 41333, Start Num: 13

Candidate Starts for Rukungu_61:

(9, 40719), (Start: 13 @40740 has 37 MA's), (Start: 17 @40749 has 2 MA's), (26, 40836), (38, 40917), (48, 40971), (54, 41007), (58, 41022), (66, 41064), (78, 41199), (83, 41217), (96, 41328),

Gene: Rumi_59 Start: 38385, Stop: 38978, Start Num: 13

Candidate Starts for Rumi_59:

(Start: 13 @38385 has 37 MA's), (Start: 17 @38394 has 2 MA's), (26, 38481), (38, 38562), (48, 38616), (54, 38652), (58, 38667), (66, 38709), (78, 38844), (83, 38862), (96, 38973),

Gene: Sadboi_59 Start: 40576, Stop: 41169, Start Num: 13

Candidate Starts for Sadboi_59:

(11, 40561), (Start: 13 @40576 has 37 MA's), (Start: 17 @40585 has 2 MA's), (26, 40672), (38, 40753), (48, 40807), (54, 40843), (58, 40858), (66, 40900), (78, 41035), (83, 41053), (96, 41164),

Gene: Sampudon_59 Start: 40920, Stop: 41513, Start Num: 13

Candidate Starts for Sampudon_59:

(11, 40905), (Start: 13 @40920 has 37 MA's), (Start: 17 @40929 has 2 MA's), (38, 41097), (48, 41151), (54, 41187), (58, 41202), (66, 41244), (69, 41271), (78, 41379), (83, 41397), (96, 41508),

Gene: Send513_62 Start: 46113, Stop: 46691, Start Num: 16

Candidate Starts for Send513_62:

(Start: 16 @46113 has 11 MA's), (20, 46149), (25, 46206), (26, 46209), (29, 46233), (56, 46386), (71, 46482), (73, 46491), (90, 46626),

Gene: Sienna_48 Start: 35870, Stop: 36490, Start Num: 14

Candidate Starts for Sienna_48:

(1, 35747), (2, 35756), (5, 35813), (Start: 14 @35870 has 23 MA's), (33, 36020), (39, 36053), (42, 36065), (46, 36095), (49, 36116), (65, 36188), (68, 36209), (85, 36380), (89, 36422), (90, 36431), (93, 36473), (96, 36485),

Gene: SirHarley_51 Start: 38692, Stop: 39282, Start Num: 10

Candidate Starts for SirHarley_51:

(Start: 10 @38692 has 23 MA's), (35, 38872), (57, 38986), (70, 39049), (79, 39151), (80, 39154), (81, 39157), (87, 39190), (91, 39250),

Gene: Stormer_60 Start: 38389, Stop: 38982, Start Num: 13

Candidate Starts for Stormer_60:

(Start: 13 @38389 has 37 MA's), (Start: 17 @38398 has 2 MA's), (26, 38485), (38, 38566), (48, 38620), (54, 38656), (58, 38671), (66, 38713), (78, 38848), (83, 38866), (96, 38977),

Gene: SuperSonics_77 Start: 47937, Stop: 48527, Start Num: 14

Candidate Starts for SuperSonics_77:

(Start: 14 @47937 has 23 MA's), (19, 47961), (39, 48123), (50, 48186), (71, 48327), (72, 48330), (96, 48522),

Gene: SuperheroCarly_51 Start: 38631, Stop: 39221, Start Num: 10

Candidate Starts for SuperheroCarly_51:

(Start: 10 @38631 has 23 MA's), (35, 38811), (57, 38925), (70, 38988), (79, 39090), (80, 39093), (81, 39096), (87, 39129), (91, 39189),

Gene: Suzy_47 Start: 36206, Stop: 36826, Start Num: 14

Candidate Starts for Suzy_47:

(5, 36149), (Start: 14 @36206 has 23 MA's), (26, 36302), (33, 36356), (39, 36389), (42, 36401), (46, 36431), (49, 36452), (65, 36524), (68, 36545), (89, 36758), (90, 36767), (93, 36809), (96, 36821),

Gene: Terapin_49 Start: 35794, Stop: 36414, Start Num: 14

Candidate Starts for Terapin_49:

(1, 35671), (2, 35680), (5, 35737), (Start: 14 @35794 has 23 MA's), (33, 35944), (39, 35977), (42, 35989), (46, 36019), (49, 36040), (65, 36112), (68, 36133), (85, 36304), (89, 36346), (90, 36355), (93, 36397), (96, 36409),

Gene: Thoth_50 Start: 38544, Stop: 39134, Start Num: 10

Candidate Starts for Thoth_50:

(Start: 10 @38544 has 23 MA's), (35, 38724), (57, 38838), (70, 38901), (79, 39003), (80, 39006), (81, 39009), (87, 39042), (91, 39102),

Gene: Thumb_61 Start: 45491, Stop: 46057, Start Num: 14

Candidate Starts for Thumb_61:

(3, 45407), (4, 45422), (Start: 14 @45491 has 23 MA's), (19, 45515), (22, 45554), (35, 45641), (50, 45731), (52, 45740), (53, 45743), (63, 45797), (69, 45818), (72, 45857), (77, 45911),

Gene: Tillicus_55 Start: 39262, Stop: 39855, Start Num: 13

Candidate Starts for Tillicus_55:

(11, 39247), (Start: 13 @39262 has 37 MA's), (26, 39358), (33, 39412), (38, 39439), (48, 39493), (58, 39544), (66, 39586), (82, 39733), (83, 39739), (95, 39847), (96, 39850),

Gene: Troll4_50 Start: 38676, Stop: 39266, Start Num: 10

Candidate Starts for Troll4_50:

(Start: 10 @38676 has 23 MA's), (35, 38856), (57, 38970), (70, 39033), (79, 39135), (80, 39138), (81, 39141), (87, 39174), (91, 39234),

Gene: Visconti_51 Start: 38556, Stop: 39146, Start Num: 10

Candidate Starts for Visconti_51:

(Start: 10 @38556 has 23 MA's), (35, 38736), (57, 38850), (70, 38913), (79, 39015), (80, 39018), (81, 39021), (87, 39054), (91, 39114),

Gene: WaldoWhy_52 Start: 38653, Stop: 39243, Start Num: 10

Candidate Starts for WaldoWhy_52:

(Start: 10 @38653 has 23 MA's), (35, 38833), (57, 38947), (70, 39010), (79, 39112), (80, 39115), (81, 39118), (87, 39151), (91, 39211),

Gene: Weiss13_61 Start: 45818, Stop: 46396, Start Num: 16

Candidate Starts for Weiss13_61:

(Start: 16 @45818 has 11 MA's), (20, 45854), (25, 45911), (26, 45914), (29, 45938), (56, 46091), (71, 46187), (73, 46196), (90, 46331),

Gene: Wojtek_55 Start: 38948, Stop: 39541, Start Num: 13

Candidate Starts for Wojtek_55:

(Start: 13 @38948 has 37 MA's), (Start: 17 @38957 has 2 MA's), (26, 39044), (38, 39125), (48, 39179), (54, 39215), (58, 39230), (66, 39272), (78, 39407), (83, 39425), (96, 39536),

Gene: Xenia2_56 Start: 38270, Stop: 38866, Start Num: 13

Candidate Starts for Xenia2_56:

(11, 38252), (Start: 13 @38270 has 37 MA's), (Start: 17 @38279 has 2 MA's), (38, 38447), (66, 38597), (69, 38624), (83, 38750), (88, 38783), (89, 38801),

Gene: Yelo_61 Start: 46196, Stop: 46774, Start Num: 16

Candidate Starts for Yelo_61:

(Start: 16 @46196 has 11 MA's), (20, 46232), (25, 46289), (26, 46292), (29, 46316), (33, 46343), (56, 46469), (71, 46565), (73, 46574), (90, 46709),

Gene: Yikes_60 Start: 40987, Stop: 41580, Start Num: 13

Candidate Starts for Yikes_60:

(11, 40972), (Start: 13 @40987 has 37 MA's), (Start: 17 @40996 has 2 MA's), (38, 41164), (48, 41218), (54, 41254), (58, 41269), (66, 41311), (78, 41446), (83, 41464), (96, 41575),

Gene: Zany_57 Start: 40423, Stop: 41016, Start Num: 13

Candidate Starts for Zany_57:

(9, 40402), (Start: 13 @40423 has 37 MA's), (Start: 17 @40432 has 2 MA's), (26, 40519), (38, 40600), (48, 40654), (54, 40690), (58, 40705), (66, 40747), (69, 40774), (78, 40882), (83, 40900), (96, 41011),

Gene: Zenon_63 Start: 46142, Stop: 46720, Start Num: 16

Candidate Starts for Zenon_63:

(Start: 16 @46142 has 11 MA's), (20, 46178), (25, 46235), (26, 46238), (29, 46262), (56, 46415), (71, 46511), (73, 46520), (90, 46655),